

## Missouri Department of Natural Resources

# Total Maximum Daily Load Information Sheet

## Lake Ste. Louise

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### Waterbody Segment at a Glance:

**County:** St. Charles  
**Nearby Cities:** Lake St Louis, O'Fallon,  
Wentzville  
**Area of impairment:** 50 acres  
**Pollutant:** Fecal coliform bacteria  
**Source:** Urban Runoff



State map showing location of watershed

**Added to the 2002 303(d) List**

**TMDL Priority Ranking:** High

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### Description of the Problem

#### Beneficial uses of Lake Ste. Louise

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health associated with Fish Consumption
- Whole Body Contact Recreation (Swimming)

#### Use that is impaired

- Whole Body Contact Recreation (Swimming)

#### Standards that apply

- State Water Quality Standards, 10 CSR20-7.031 (4)(C), require that fecal coliform bacteria levels in waters protected for swimming shall not exceed 200 bacterial colonies/100 milliliters of water during the recreational season (April 1 through October 31). Federal guidelines also suggest rating waters as impaired if more than 10 percent of all samples exceed 400 bacterial colonies/100 ml or if there are any closures of swimming areas due to high bacteria levels.

### Background Information

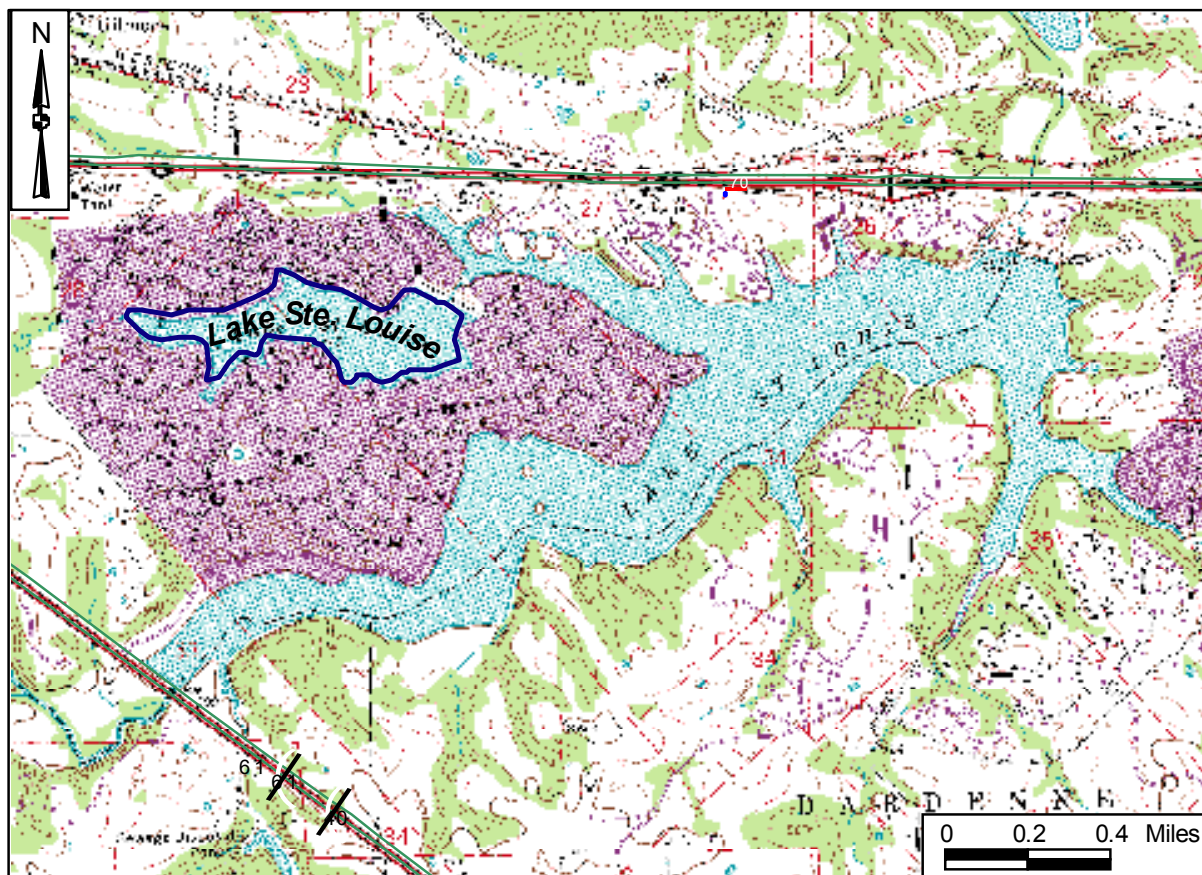
Fecal coliform and *E. coli* are non-pathogenic (do not cause human illness) bacteria that are used as indicators of the risk of waterborne disease from bacteria or viruses. They are used to detect fecal contamination of the water by humans or other warm-blooded animals.

Lake Ste. Louise, 87 acres in size and nearby Lake St. Louis, 525 acres in size, are the focal area of significant medium to high density residential development. The Lake St. Louis Community Association has monitored bacterial levels in both lakes for several years. Elevated levels of fecal

coliform bacteria, particularly in Paris Cove in Lake Ste. Louise, led to a more intensive study by Horner and Shifrin, Inc. in 1996-1997. This study found that fecal coliform in Paris Cove often exceeded the state standard of 200 colonies/100 ml for Whole Body Contact Recreation during and after light rains with values typically ranging from 300 to 1000 colonies/100 ml. During and just after heavier rains, fecal coliform counts almost always exceeded 1000 colonies/100 ml. An investigation of sewers in the area by Horner and Shifrin indicated that stormwater overflows were unlikely to be major contributors to the bacterial problem, and the conclusion was that the majority of the bacteria was due to multiple nonpoint sources in the watershed.

More recently, the Association has collected *E. coli* samples for DNA analysis at the University of Washington. The University identified 132 different strains of *E. coli* based on genetic differences. Thirty-three of these strains were from birds, 33 from dogs, 22 from other types of wildlife such as deer, raccoon, skunk, opossum, fox and rodents and 11 strains from humans. This analysis seems to confirm the earlier conclusion that multiple nonpoint sources are responsible for the majority of the bacterial contamination.

### Lake Ste. Louise in St. Charles County, Missouri



**For more information call or write:**

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